

In the Claims

Please replace all prior versions, and listings, of claims in the application with the following list of claims:

1. (Currently Amended) A composition comprising
an immunostimulatory nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:1, wherein the immunostimulatory nucleic acid molecule comprises an unmethylated CpG motif.
2. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid molecule consists of the nucleotide sequence of SEQ ID NO:1.
3. (Original) The composition of claim 1, further comprising an antigen.
4. (Original) The composition of claim 3, wherein the antigen is selected from the group consisting of a microbial antigen, a cancer antigen, and an allergen.
5. (Original) The composition of claim 4, wherein the microbial antigen is selected from the group consisting of a bacterial antigen, a viral antigen, a fungal antigen and a parasitic antigen.
6. (Original) The composition of claim 3, wherein the antigen is encoded by a nucleic acid vector.
7. (Currently amended) The composition of claim 3 ~~3~~ 6, wherein the nucleic acid vector is separate from the immunostimulatory nucleic acid.
8. (Original) The composition of claim 3, wherein the antigen is a peptide antigen.
9. (Original) The composition of claim 1, further comprising an adjuvant.

10. (Original and Withdrawn) The composition of claim 9, wherein the adjuvant is a mucosal adjuvant.

11. (Original and Withdrawn) The composition of claim 1, further comprising a cytokine.

12. (Original and Withdrawn) The composition of claim 1, further comprising a therapeutic agent selected from the group consisting of an anti-microbial agent, an anti-cancer agent, an allergy/asthma medicament.

13. (Original and Withdrawn) The composition of claim 12, wherein the anti-microbial agent is selected from the group consisting of an anti-bacterial agent, an anti-viral agent, an anti-fungal agent, and an anti-parasite agent.

14. (Original and Withdrawn) The composition of claim 12, wherein the anti-cancer agent is selected from the group consisting of a chemotherapeutic agent, a cancer vaccine, and an immunotherapeutic agent.

15. (Original and Withdrawn) The composition of claim 12, wherein the allergy/asthma medicament is selected from the group consisting of PDE-4 inhibitor, bronchodilator/beta-2 agonist, K⁺ channel opener, VLA-4 antagonist, neurokin antagonist, TXA₂ synthesis inhibitor, xanthanine, arachidonic acid antagonist, 5 lipoxygenase inhibitor, thromboxin A₂ receptor antagonist, thromboxane A₂ antagonist, inhibitor of 5-lipoxygenase activation protein, and protease inhibitor.

~~17~~ 16. (Currently amended) The composition of claim 1, wherein the immunostimulatory nucleic acid has a nucleotide backbone which includes at least one backbone modification.

~~18~~ 17. (Currently amended) The composition of claim ~~17~~ 16, wherein the backbone modification is a phosphorothioate modification.

~~19~~ 18. (Currently amended) The composition of claim ~~17~~ 16, wherein the nucleotide backbone is chimeric.

~~20~~ 19. (Currently amended) The composition of claim ~~17~~ 16, wherein the nucleotide backbone is entirely modified.

~~21~~ 20. (Currently amended) The composition of claim 1, further comprising a pharmaceutically acceptable carrier.

~~22~~ 21. (Canceled)

~~23~~ 22. (Currently amended) The composition of claim 1, wherein the immunostimulatory nucleic acid includes at least four unmethylated CpG motifs.

~~24-27~~ 23-26. (Canceled)

~~28~~ 27. (Currently amended) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated as a nutritional supplement.

~~29~~ 28. (Currently amended) The composition of claim ~~28~~ 27, wherein the nutritional supplement is formulated as a capsule, a pill, or a sublingual tablet.

~~30~~ 29. (Currently amended and Withdrawn) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated for local administration.

~~31~~ 30. (Currently amended) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated for parenteral administration.

~~32~~ 31. (Currently amended) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated in a sustained release device.

~~33~~ 32. (Currently amended and Withdrawn) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated for delivery to a mucosal surface.

~~34-43~~ 33-42. (Canceled)

[[44]] 43. (Currently amended) The composition of claim ~~32~~ 31, wherein the sustained release device is a microparticle.

[[45]] 44. (Canceled)

[[46]] 45. (Currently amended and Withdrawn) A method for stimulating an immune response in a subject in need thereof comprising
administering to a subject an immunostimulatory nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:1, in an amount effective to stimulate an immune response.

[[47]] 46. (Currently amended and Withdrawn) The method of claim [[46]] 45, wherein the subject has or is at risk of developing an infection.

[[48]] 47. (Currently amended and Withdrawn) The method of claim [[47]] 46, wherein the infection is selected from the group consisting of a bacterial infection, a viral infection, a fungal infection, and a parasite infection.

[[49]] 48. (Currently amended and Withdrawn) The method of claim [[48]] 47, wherein the viral infection is selected from the group consisting of Human immunodeficiency viruses (HIV-1 and HIV-2), Human T lymphotropic virus type I (HTLV-I), Human T lymphotropic virus type II (HTLV-II), Herpes simplex virus type I (HSV-1) Herpes simplex virus type 2

(HSV-2), Human papilloma virus (multiple types), Hepatitis A virus, Hepatitis B virus, Hepatitis C and D viruses, Epstein-Barr virus (EBV), Cytomegalovirus and Molluscum contagiosum virus.

~~50~~ 49. (Currently amended and Withdrawn) The method of claim ~~[[49]]~~ 48, wherein the viral infection is a herpes simplex virus infection.

~~51~~ 50. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the subject has or is at risk of developing allergy.

~~52~~ 51. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the subject has or is at risk of developing asthma.

~~53~~ 52. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the subject has or is at risk of developing a cancer.

~~54~~ 53. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, further comprising administering an antigen to the subject.

~~55~~ 54. (Currently amended and Withdrawn) The method of claim 53, wherein the antigen is selected from the group consisting of a microbial antigen, a cancer antigen, a self antigen, and an allergen.

~~56~~ 55. (Currently amended and Withdrawn) The method of claim 54, wherein the microbial antigen is selected from the group consisting of a bacterial antigen, a viral antigen, a fungal antigen, and a parasitic antigen.

~~57~~ 56. (Currently amended and Withdrawn) The method of claim 55, wherein the antigen is derived from a microorganism selected from the group consisting of herpesviridae, retroviridae, orthomyxoviridae, toxoplasma, haemophilus, campylobacter, clostridium, E.coli, and staphylococcus.

~~58~~ 57. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the immune response is an antigen-specific immune response.

~~59-63~~ 58-62. (Canceled)

~~64~~ 63. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, further comprising administering to the subject a second therapeutic agent.

~~65~~ 64. (Currently amended and Withdrawn) The method of claim ~~64~~ 63, wherein the second therapeutic agent is an anti-microbial agent.

~~66~~ 65. (Currently amended and Withdrawn) The method of claim ~~65~~ 64, wherein the anti-microbial agent is selected from the group consisting of an anti-bacterial agent, an anti-viral agent, an anti-fungal agent, and an anti-parasite agent.

~~67-70~~ 66-69. (Canceled)

~~71~~ 70. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the immunostimulatory nucleic acid has a nucleotide backbone which includes at least one backbone modification.

~~72~~ 71. (Currently amended and Withdrawn) The method of claim ~~71~~ 70, wherein the backbone modification is a phosphorothioate modification.

~~73~~ 72. (Currently amended and Withdrawn) The method of claim ~~71~~ 70, wherein the nucleotide backbone is chimeric.

~~74~~ 73. (Currently amended and Withdrawn) The method of claim ~~71~~ 70, wherein the nucleotide backbone is entirely modified.

~~75-76~~ 74-75. (Canceled)

~~77~~ 76. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the immunostimulatory nucleic acid is administered orally.

~~78~~ 77. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the immunostimulatory nucleic acid is administered locally.

~~79~~ 78. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the immunostimulatory nucleic acid is administered parenterally.

~~80~~ 79. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the immunostimulatory nucleic acid is administered in a sustained release device.

~~81~~ 80. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the immunostimulatory nucleic acid is administered to a mucosal surface.

~~82-83~~ 81-82. (Canceled)

~~84~~ 83. (Currently amended and Withdrawn) The method of claim ~~81~~ 80, wherein the mucosal surface is selected from the group consisting of an oral, nasal, rectal, vaginal, and ocular surface.

~~85~~ 84. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, further comprising isolating an immune cell from the subject, contacting the immune cell with an effective amount to activate the immune cell of the immunostimulatory nucleic acid and re-administering the activated immune cell to the subject.

~~86-88~~ 85-87. (Canceled)

~~89~~ 88. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the subject is a human.

~~90~~ 89. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, wherein the subject is selected from the group consisting of a dog, cat, horse, cow, pig, sheep, goat, chicken, monkey and fish.

~~91-94~~ 90-93. (Canceled)

~~95~~ 94. (Currently amended and Withdrawn) The method of claim ~~53~~ 52, wherein the cancer is selected from the group consisting of biliary tract cancer; bone cancer; brain and CNS cancer; breast cancer; cervical cancer; choriocarcinoma; colon cancer; connective tissue cancer; endometrial cancer; esophageal cancer; eye cancer; gastric cancer; Hodgkin's lymphoma; intraepithelial neoplasms; larynx cancer; lymphomas; liver cancer; lung cancer (e.g. small cell and non-small cell); melanoma; neuroblastomas; oral cavity cancer; ovarian cancer; pancreas cancer; prostate cancer; rectal cancer; sarcomas; skin cancer; testicular cancer; thyroid cancer; and renal cancer.

~~96~~ 95. (Currently amended and Withdrawn) The method of claim ~~[[46]]~~ 45, further comprising administering an antibody specific for a cell surface antigen, and wherein the immune response results in antigen dependent cellular cytotoxicity (ADCC).

~~97~~ 96. (Canceled)

~~98~~ 97. (Currently amended and Withdrawn) A method for inducing an innate immune response, comprising

administering to the subject an immunostimulatory nucleic acid in an amount effective for activating an innate immune response, wherein the immunostimulatory nucleic acid has a nucleotide sequence comprising SEQ ID NO:1.

[[99]] 98. (Currently amended and Withdrawn) A method for identifying an immunostimulatory nucleic acid comprising

- measuring a control level of activation of an immune cell population contacted with an immunostimulatory nucleic acid comprising a nucleotide sequence of SEQ ID NO:1,
- measuring a test level of activation of an immune cell population contacted with a test nucleic acid, and
- comparing the control level of activation to the test level of activation,

wherein a test level that is equal to or above the control level is indicative of an immunostimulatory nucleic acid.